II. Listing of Claims

1. – 16. (Cancelled)

17. (Previously Presented) A fluidized bed reactor in accordance with claim 23, wherein the first and second openings have the same dimension.

18. (Previously Presented) A fluidized bed reactor in accordance with claim 23, wherein the first and second openings have different dimensions.

19. (Previously Presented) A heat exchange apparatus in accordance with claim 24, wherein the first and second openings have the same dimension.

20. (Previously Presented) A heat exchange apparatus in accordance with claim 24, wherein the first and second openings have different dimensions.

21. (Currently Amended) A method in accordance with claim 27 ~~claim 9~~, wherein the first and second openings have the same dimension.

22. (Currently Amended) A method in accordance with claim 27 ~~claim 9~~, wherein the first and second openings have different dimensions.

23. (Currently Amended) The fluidized-bed reactor of claim 25 ~~claim 1~~ where the collector includes throttle holes ~~(13)~~ located in both the ~~collector wall between the tube bundles (2) and the collectors (9 and 10) and in the midline of the collectors (9).~~ coupling between the ring pipe distributor or collector and the heat exchanger, and the reactor wall between the two-halves of the ring pipe distributor or collector.

24. (Currently Amended) The heat exchange apparatus of claim 26 ~~claim 2~~ where the collector includes throttle holes ~~(13)~~ located in both the ~~collector wall between the tube bundles (2) and the collectors (9 and 10) and in the midline of the collectors (9).~~ coupling between the ring pipe distributor or collector and the heat exchanger, and the reactor wall between the two-halves of the ring pipe distributor or collector.

25. (New) A fluidized-bed reactor for conducting the exothermic reaction of oxychlorination of ethylene, oxygen and HCl, said reactor containing a fluidized bed and having a reactor wall with a heat exchange apparatus, said heat exchange apparatus comprising:

a heat exchanger including a plurality of tube packets positioned in the fluidized bed for releasing heat evolved during the exothermic reaction to a heat-transfer medium comprising water within the tube packets;

a ring pipe distributor coupled to the heat exchanger and mounted to the reactor wall, wherein the ring pipe distributor is essentially circular in cross section and mounted both internal to and external to the reactor wall, with essentially one-half of the cross section assigned to the interior of the reactor wall and essentially one-half of the cross-section assigned to the exterior of the reactor wall; and

a ring pipe collector coupled to the heat exchanger and mounted to the reactor wall, wherein the ring pipe collector is essentially circular in cross section and mounted both internal to and external to the reactor wall, with essentially one-half of the cross section assigned to the interior of the reactor wall and essentially one-half of the cross-section assigned to the exterior of the reactor wall;

wherein the water is distributed to the plurality of tube packets via the ring pipe distributor, and wherein the steam generated within the plurality of tube packets is removed from the tube packets via the ring pipe collector; and

wherein the ring pipe distributor and the ring pipe collector each include throttle holes located in a position selected from the group consisting of:

the coupling between the ring pipe distributor or collector and the heat exchanger;

the reactor wall between the two-halves of the ring pipe distributor or collector; and

both the coupling between the ring pipe distributor or collector and the heat exchanger, and the reactor wall between the two-halves of the ring pipe distributor or collector.

26. (New) A heat exchange apparatus for releasing heat evolved in a fluidized bed reactor from the exothermic reaction of oxychlorination of ethylene, oxygen and Hel, said fluidized bed reactor containing a fluidized bed and having a reactor wall, said heat exchange apparatus comprising:

a plurality of tube packets positioned in the fluidized bed, said plurality of tube packets being pressurized with a heat-transfer medium;

a ring pipe distributor mounted to the reactor wall and coupled to the plurality of tube packets; and

a ring pipe collector mounted to the reactor wall and coupled to the plurality of tube packets;

wherein the plurality of tube packets are pressurized with the heat-transfer medium distributed via the ring pipe distributor, and wherein the heat-transfer medium is removed from the plurality of tube packets via the ring pipe collector;

wherein the ring pipe distributor is essentially circular in cross section and mounted to the reactor wall both internal to and external to the reactor wall, with essentially one-half of the cross section assigned to the interior of the reactor wall and essentially one-half of the cross section assigned to the exterior of the reactor wall;

wherein the ring pipe collector is essentially circular in cross section and mounted to the reactor wall both internal to and external to the reactor wall, with essentially one-half of the cross section assigned to the interior of the reactor wall and essentially one-ha]f of the cross section assigned to the exterior of the reactor wall; and

wherein the ring pipe distributor and the ring pipe collector each include throttle holes located in a position selected from the group consisting of:

the coupling between the ring pipe distributor or collector and the heat exchanger;

the reactor wall between the two-halves of the ring pipe distributor or collector; and

both the coupling between the ring pipe distributor or collector and the heat exchanger, and the reactor wall between the two-halves of the ring pipe distributor or collector.

27. (New) A method of providing heat exchange in a fluidized bed reactor for conducting the exothermic reaction of oxychlorination of ethylene, oxygen and HCI, the fluidized bed reactor having a fluidized bed and a reactor wall, the method comprising the steps of:

providing a heat exchanger including a plurality of tube packets to the fluidized bed reactor, wherein said tube packets are positioned within the fluidized bed for releasing heat evolved from the exothermic reaction to a heat-transfer medium comprising water flowing in the tube packets;

coupling a ring pipe distributor to the heat exchanger and mounting the ring pipe distributor to the reactor wall both internal to and external to the reactor wall;

coupling a ring pipe collector to the heat exchanger and mounting the ring pipe collector to the reactor wall both internal to and external to the reactor wall;

pressurizing the plurality of tube packets with the water distributed via the ring pipe distributor; and

removing steam generated within the plurality of tube packets via the ring pipe collector;

wherein the ring pipe distributor is designed to be essentially circular in cross section, with essentially one-half of the cross section assigned to the interior of the reactor wall and essentially one-half of the cross-section assigned to the exterior of the reactor wall, and wherein a first internal distributor opening is defined on the reactor wall between the two-halves of the ring pipe distributor, the first internal distributor opening having an opening dimension less than the diameter of the circular cross-section of the ring pipe distributor;

wherein the ring pipe collector is designed to be essentially circular in cross section, with essentially one-half of the cross section assigned to the interior of the reactor wall and essentially

one-half of the cross section assigned to the exterior of the reactor wall, and wherein a first internal collector opening is defined on the reactor wall between the two-halves of the ring pipe collector, the first internal collector opening having an opening dimension less than the diameter of the circular cross-section of the ring pipe collector;

wherein the coupling between the ring pipe distributor and the heat exchanger includes a second internal distributor opening therebetween, said first and second internal distributor openings functioning as throttle holes for defining a desired pressure loss and hence for ensuring uniform flow of heat transfer medium in the plurality of tube packets; and

wherein the coupling between the ring pipe collector and the heat exchanger includes a second internal collector opening therebetween, said first and second internal collector openings functioning as throttle holes for defining a desired pressure loss and hence for ensuring uniform flow of heat transfer medium in the plurality of tube packets.